

*Requests for Information*

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- 1 **Q. Please provide a copy of the presentation shown to Liberty Consulting on February**  
2 **26, 2014 related to Newfoundland Power’s Outage Response and Crew Efficiencies**  
3 **relating to recent field technology improvements.**  
4  
5 A. Please refer to the response to Request for Information PUB-NP-121, Attachment A:  
6 Technology in Operations.

**Technology in Operations**



# Technology in Operations

*Byron Chubbs, Director, Operations Technology*

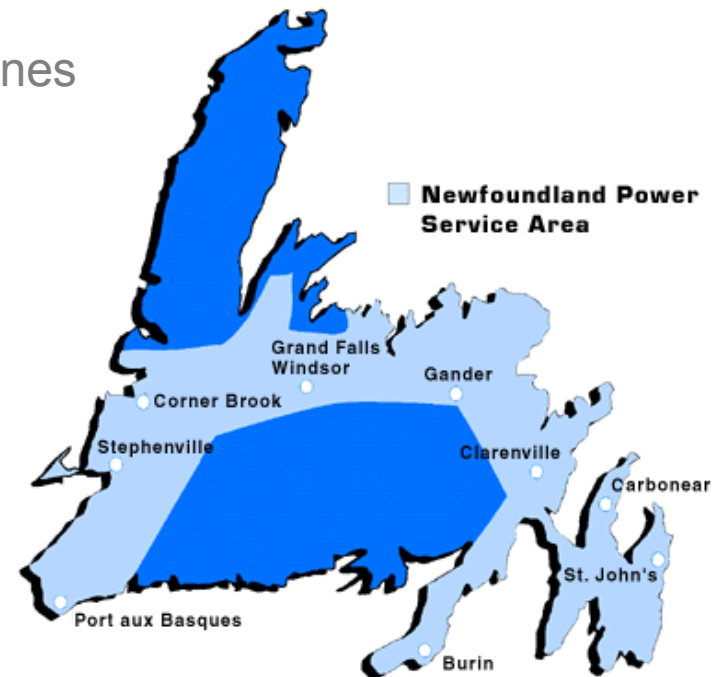
# Overview

- About Newfoundland Power
- New Technologies
- Future Plans



# About Newfoundland Power

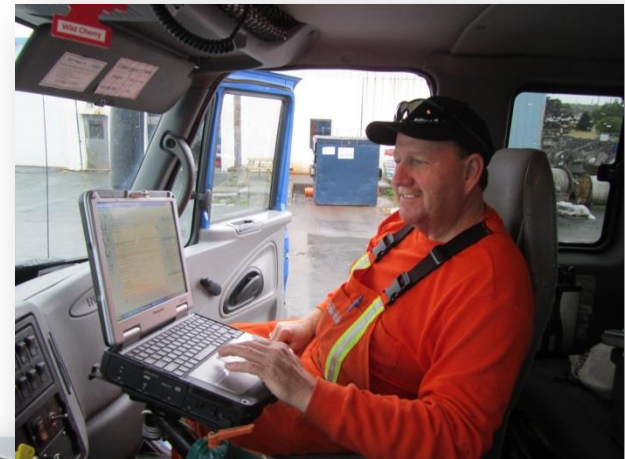
- Integrated generation, transmission and distribution utility
- Total assets valued at over \$1.4 billion
- 11,000 km of transmission and distribution lines
- Serves over 252,000 customers
- Employs about 600 skilled men and women



# New Technologies

## Equipment in Trucks

- Laptops
- 3G Modems
- GPS Vehicle Tracking

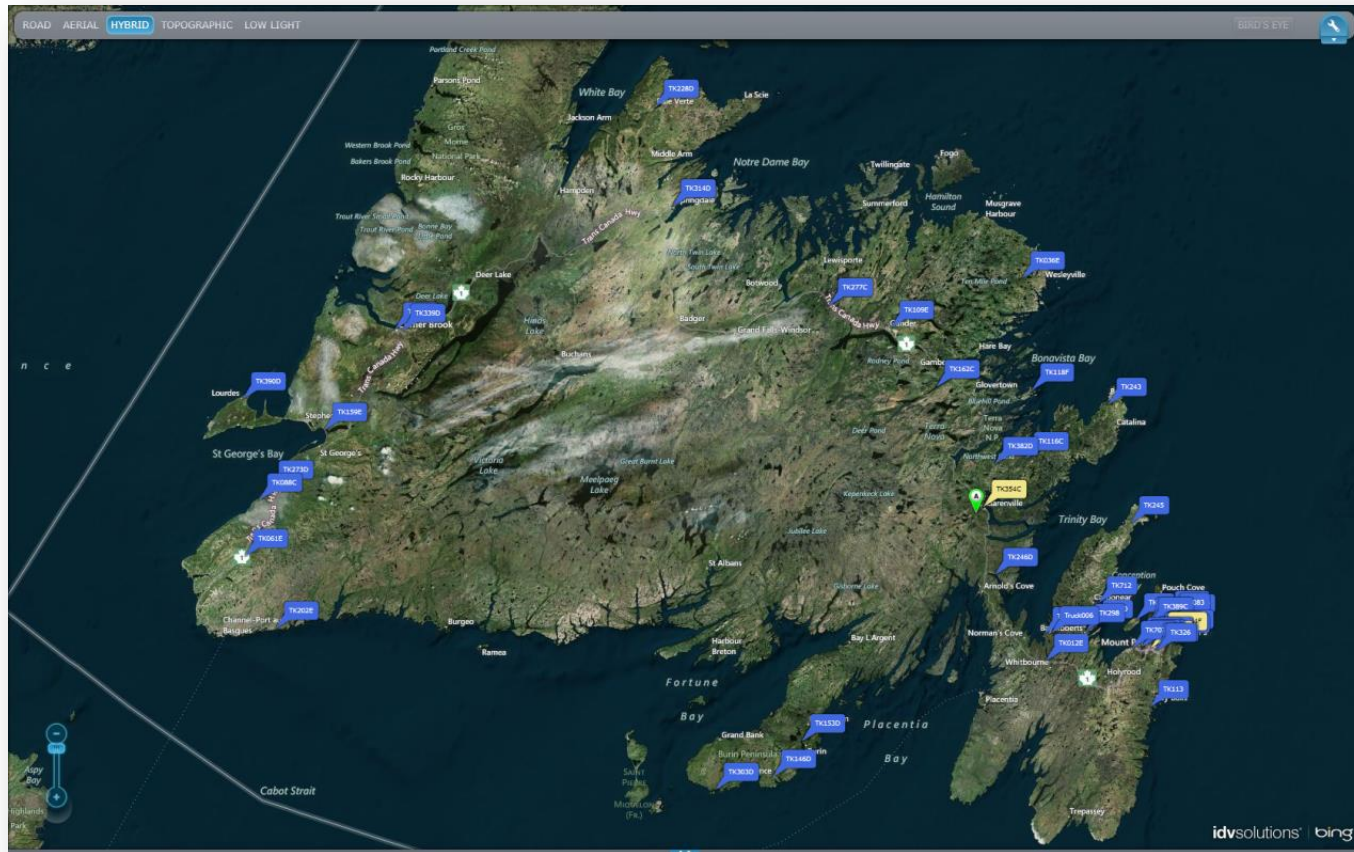


GX400/440, I/O option



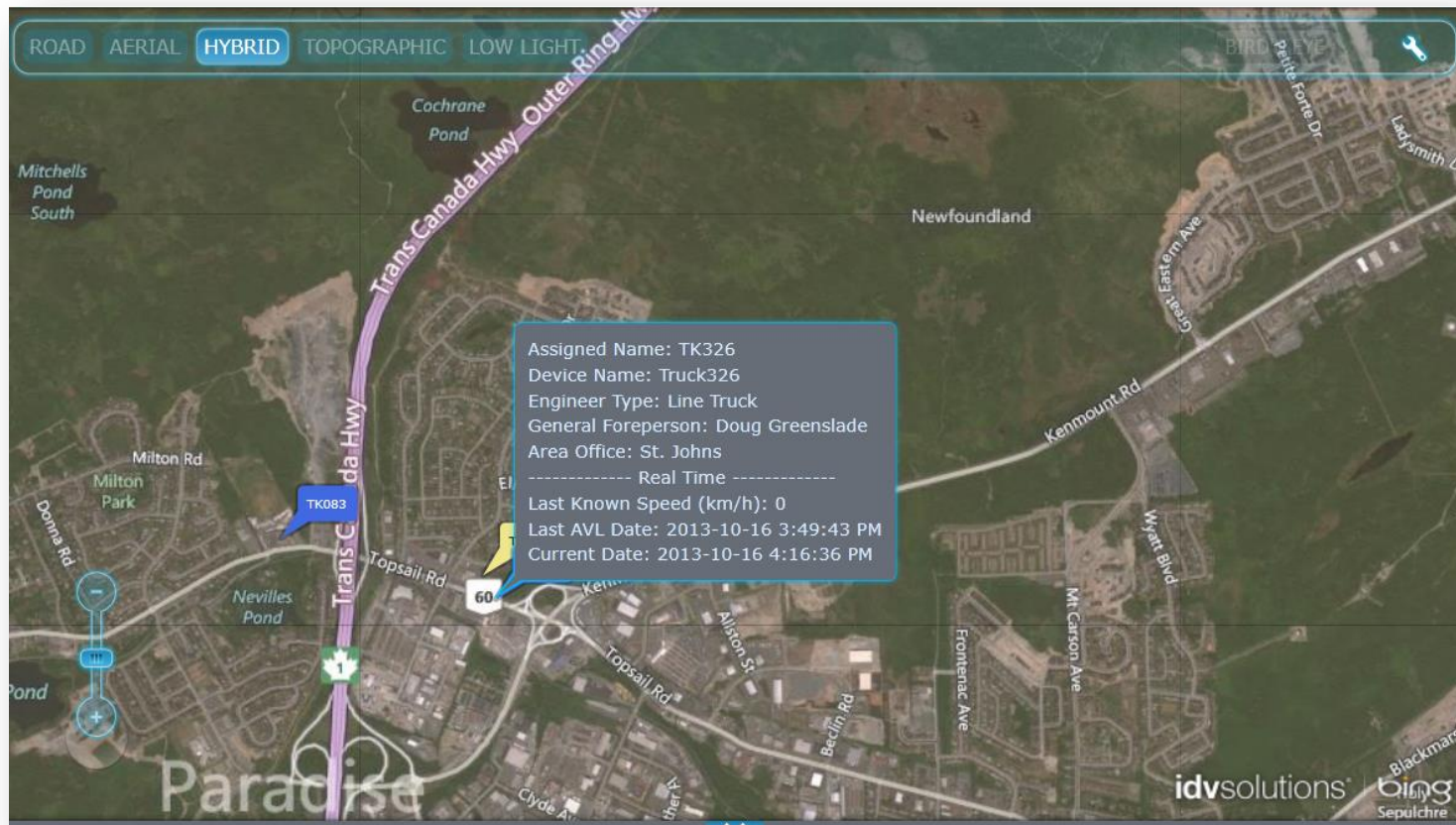
# New Technologies

## Operations Maps



# New Technologies

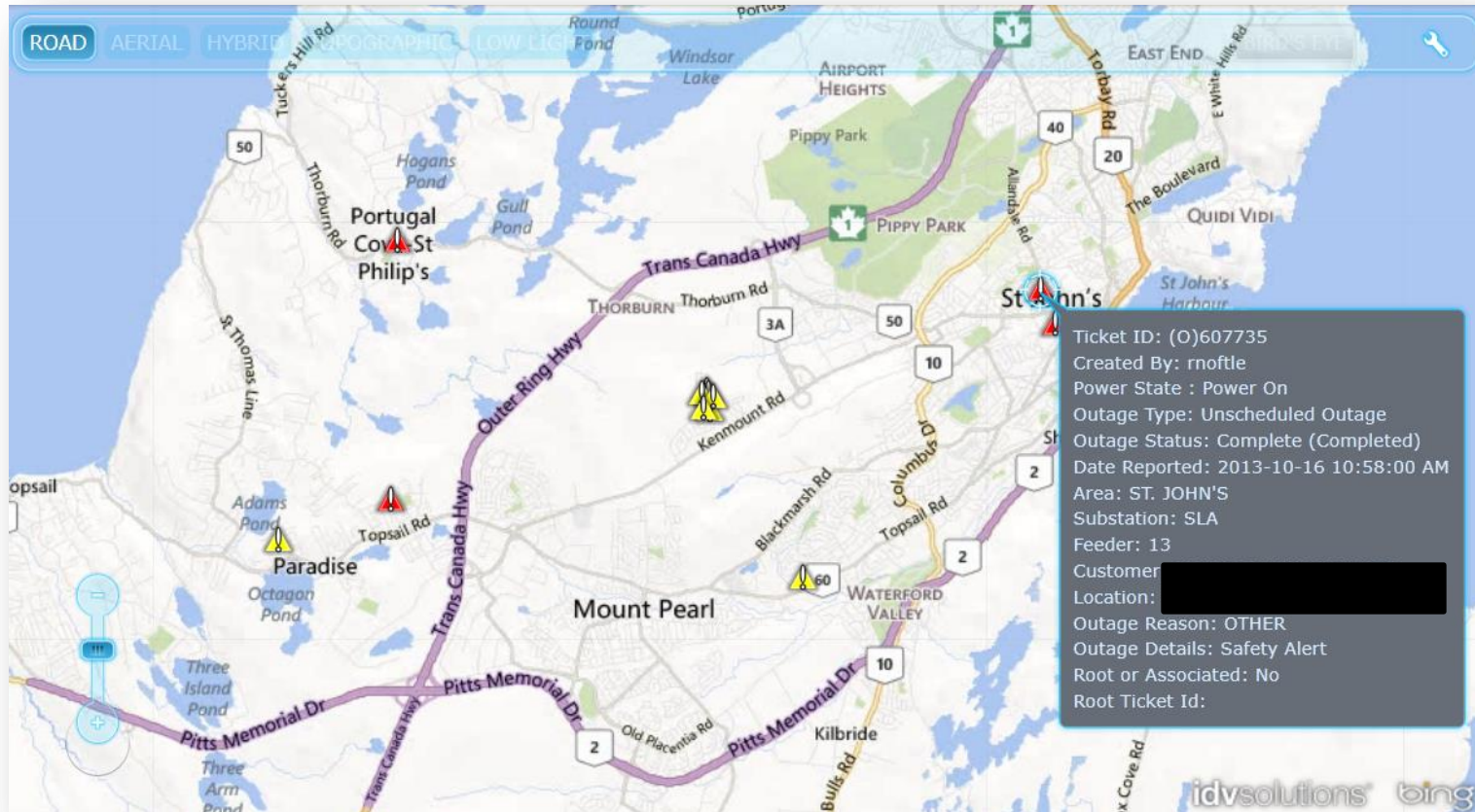
## Operations Maps





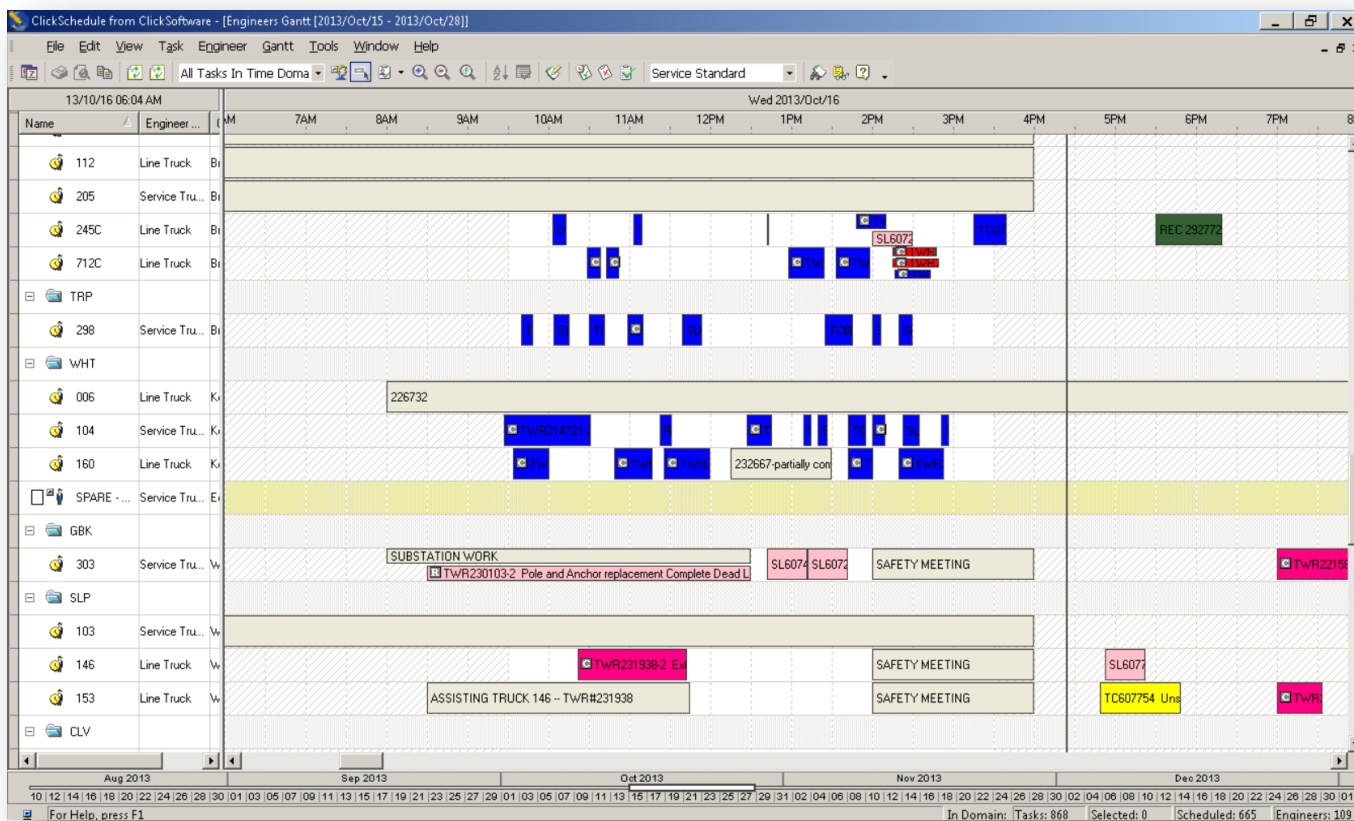
# New Technologies

## Operations Maps



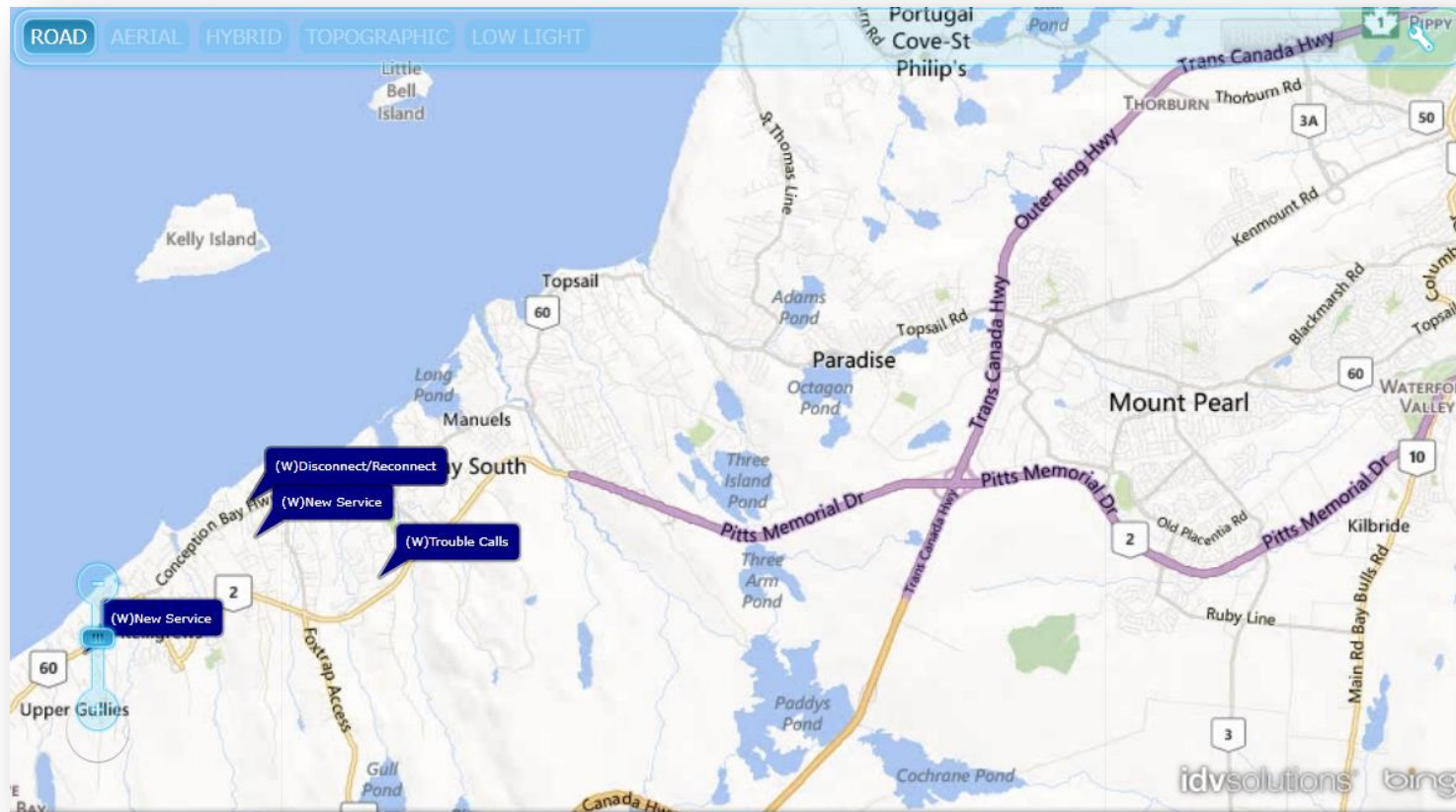
# New Technologies

## Automated Crew Scheduling



# New Technologies

## Automated Crew Scheduling





# Examples of Efficiency Gains

## Background

- 8 Defined Operating Areas
- Work Dispatched Locally
- Largely Phone and Paper Based

## 2013 Project

- Modems and GPS Installed
- Software Training with Crews
- Began Dispatching Outage and Streetlight Tickets Electronically

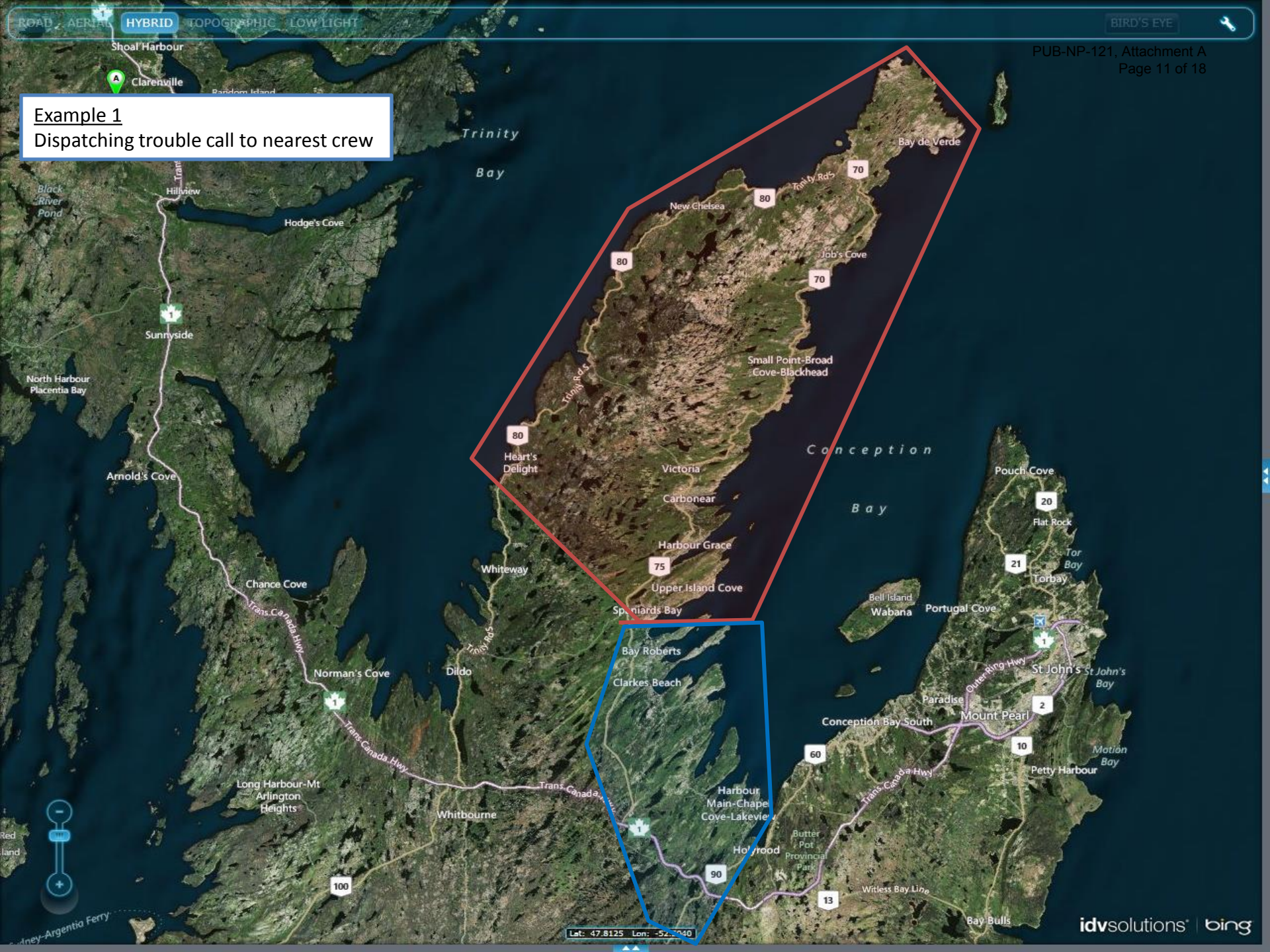
The screenshot shows the 'Outage Management' software interface. The main window displays 'Outage Search Results - 23 Records Found'. The table below is a sample of the data shown:

Outage ID	Web	Type	Area	Sub-Feeder	Reported	Name	Sa #	Street Name	City/Town	Status	Status Reason	Problem Desc
607758	N	TC	STEPHENVILLE	ABC-02	2013/10/16 15:25				LOUGHOES	Postponed	N/A	No Power
607755	N	TC	GRAND FALLS		2013/10/16 13:40				BADGER	Completed	N/A	Safety Alert
607754	N	TC	Burn	GAR-01	2013/10/16 13:16				GARFISH	Crew On Site	N/A	Flickering Light
607753	N	TC	AVALON	DUN-01	2013/10/16 13:12				PLACENTIA	Completed	N/A	low sagging
607752	N	TC	GRAND FALLS	LEV-03	2013/10/16 12:54				LEVISPORTE	Follow Up Pending	N/A	Fluctuating V
607751	N	TC	GANDER	GAR-02	2013/10/16 12:46				GANDER	No Action Taken	No Action Taken	Pat Power F
607749	N	TC	AVALON	HCT-01	2013/10/16 12:41				HEARTS CONTE	Postponed	N/A	Reset connec
607745	N	TC	AVALON	CAR-03	2013/10/16 12:25				CARBONEAR	Completed	N/A	Pat Power
607746	N	TC	ST. JOHNS	MOB-02	2013/10/16 12:24				TORS COVE	Completed	N/A	No Power
607742	N	TC	ST. JOHNS	CHA-03	2013/10/16 11:34				FOYTRAP	Completed	N/A	Wire Pulled Fr
607740	N	TC	AVALON	NCH-02	2013/10/16 11:32				NEW CHELSEA	Completed	N/A	Pat Power
607739	N	TC	ST. JOHNS	BNV-03	2013/10/16 11:29				ST. PHILIPS	Completed	N/A	no called card
607736	N	TC	ST. JOHNS	SLA-10	2013/10/16 11:16				ST. JOHNS	Acknowledge By Crew	N/A	MOVING OF
607735	N	TC	ST. JOHNS	SLA-13	2013/10/16 10:58				ST. JOHNS	Completed	N/A	Safety Alert
607730	N	TC	GRAND FALLS	GPS-10	2013/10/16 10:30				GRAND FALLS-W	Completed	N/A	Wire Down, S
607728	N	TC	STEPHENVILLE	ROB-01	2013/10/16 10:24				ST. DANIEL	No Action Taken	No Action Taken	No Power
607726	N	TC	AVALON	COL-01	2013/10/16 10:03				CONCEPTION HR	Completed	N/A	Tree On Wire
607725	N	TC	BONAVISTA	SMV-01	2013/10/16 08:51				PLATE COVE W/E	Completed	N/A	Wire Pulled Fr
607720	N	TC	CORNER BROOK	GL-02	2013/10/16 08:37				COYS COVE	Acknowledge By Crew	N/A	No Power, CL
607719	N	TC	CORNER BROOK	DLK-04	2013/10/16 08:30				DEER LAKE	Completed	N/A	No Power
607716	N	TC	CORNER BROOK	DLK-04	2013/10/16 07:07				DEER LAKE	No Action Taken	No Action Taken	No Power, Bi
607715	N	TC	ST. JOHNS	HEAD-08	2013/10/16 06:40				PARADISE	No Action Taken	Customer Owned Equ	No Power, po
607714	N	TC	CORNER BROOK	GL-01	2013/10/16 05:24				IRISHDOWN	No Action Taken	Screened	Safety Alert, 1





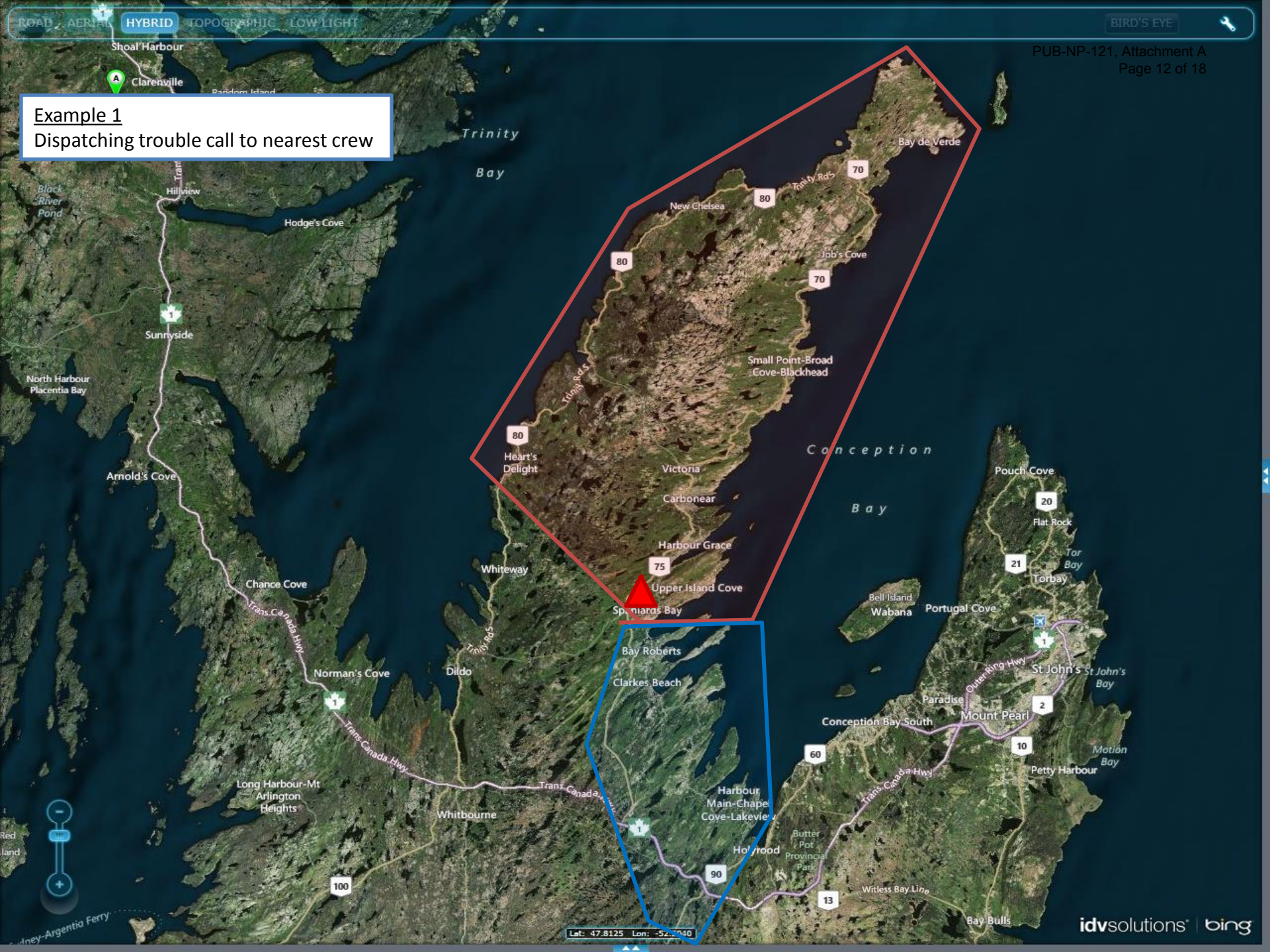
**Example 1**  
Dispatching trouble call to nearest crew







**Example 1**  
Dispatching trouble call to nearest crew

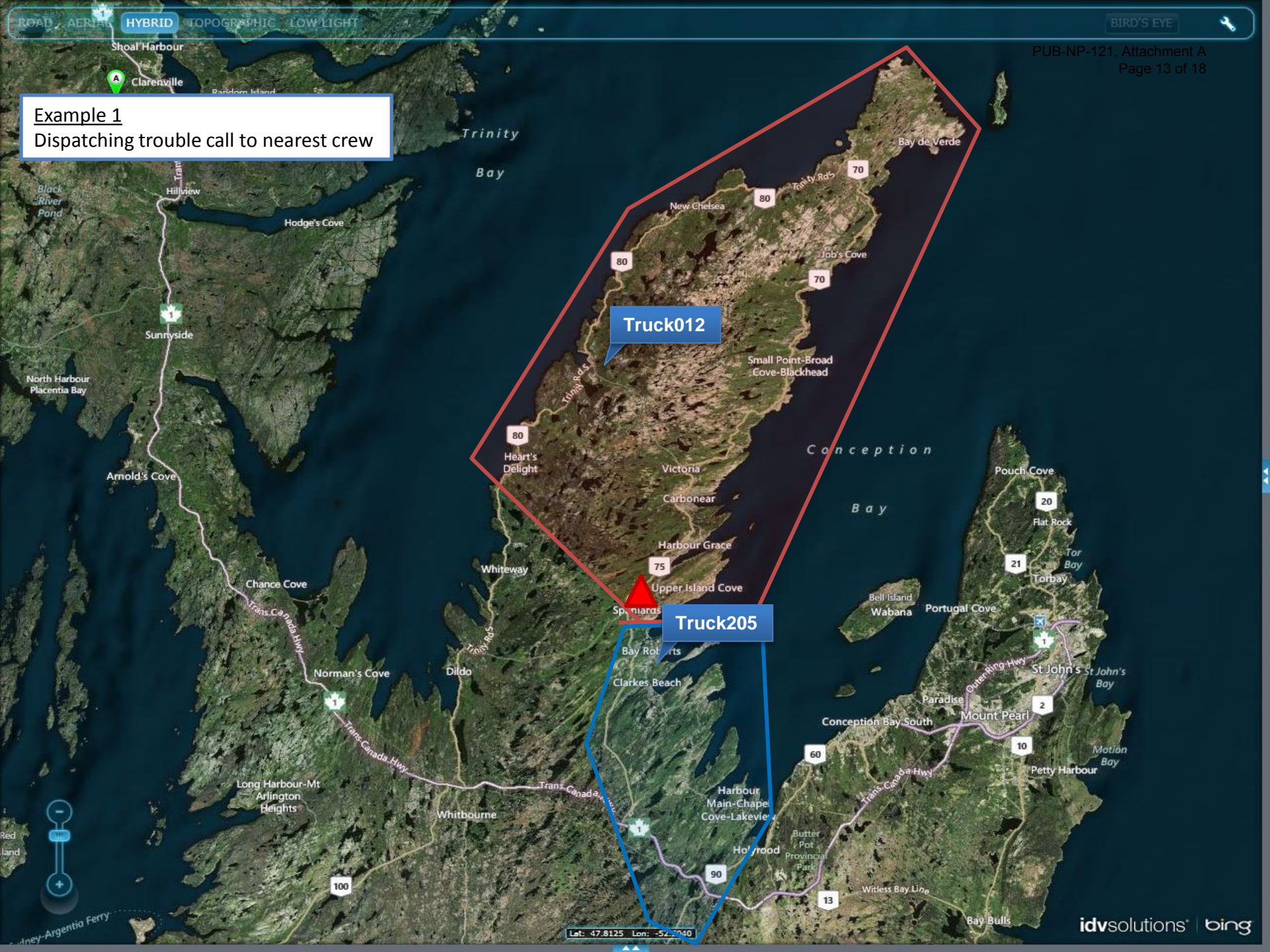


Lat: 47.8125 Lon: -52.7040





**Example 1**  
Dispatching trouble call to nearest crew

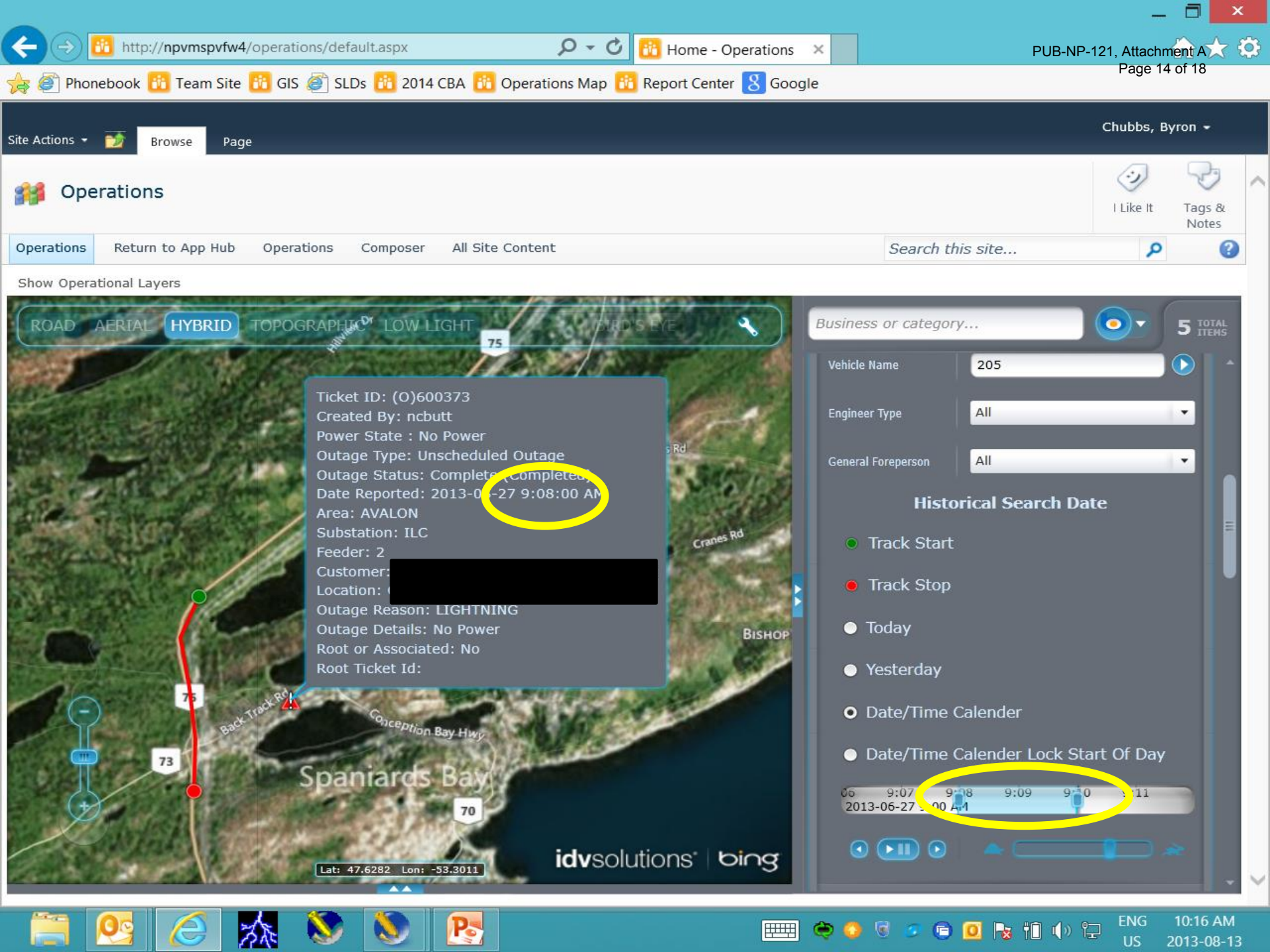


Truck012

Truck205

Lat: 47.8125 Lon: -52.7040





# Operations

I Like It

Tags & Notes

Operations Return to App Hub Operations Composer All Site Content

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Show Operational Layers

ROAD AERIAL **HYBRID** TOPOGRAPHIC LOW LIGHT BIRD'S EYE

Ticket ID: (O)600373  
 Created By: ncbutt  
 Power State : No Power  
 Outage Type: **Unscheduled Outage**  
 Outage Status: **Completed**  
 Date Reported: 2013-06-27 9:08:00 AM  
 Area: AVALON  
 Substation: ILC  
 Feeder: 2  
 Customer: [REDACTED]  
 Location: [REDACTED]  
 Outage Reason: LIGHTNING  
 Outage Details: No Power  
 Root or Associated: No  
 Root Ticket Id:

Spaniards Bay

idvsolutions | bing

Lat: 47.6282 Lon: -53.3011

Business or category...

5 TOTAL ITEMS

Vehicle Name: 205

Engineer Type: All

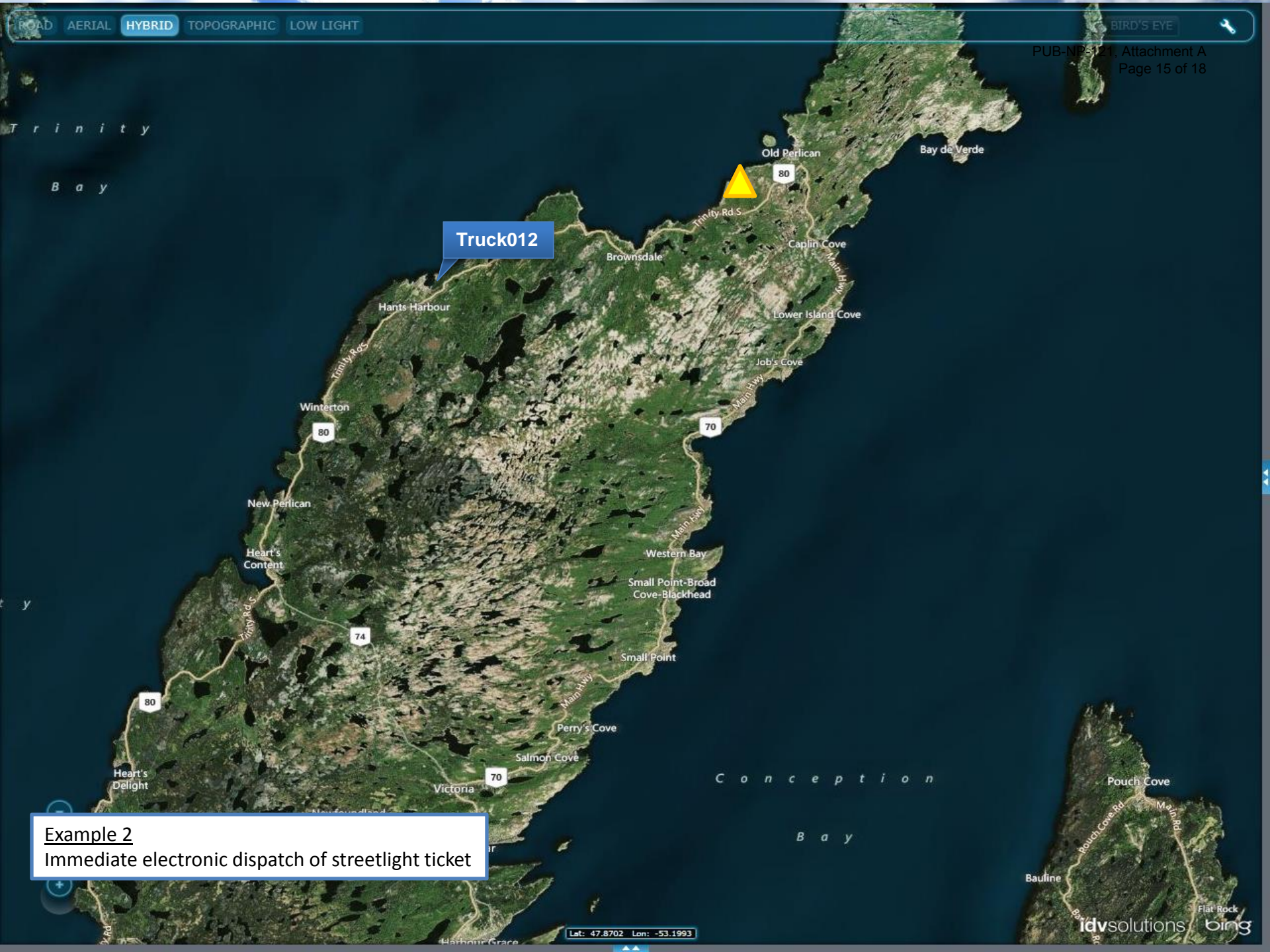
General Foreperson: All

**Historical Search Date**

- Track Start
- Track Stop
- Today
- Yesterday
- Date/Time Calendar
- Date/Time Calendar Lock Start Of Day

06 9:07 9:08 9:09 9:10 11  
 2013-06-27 9:00 AM



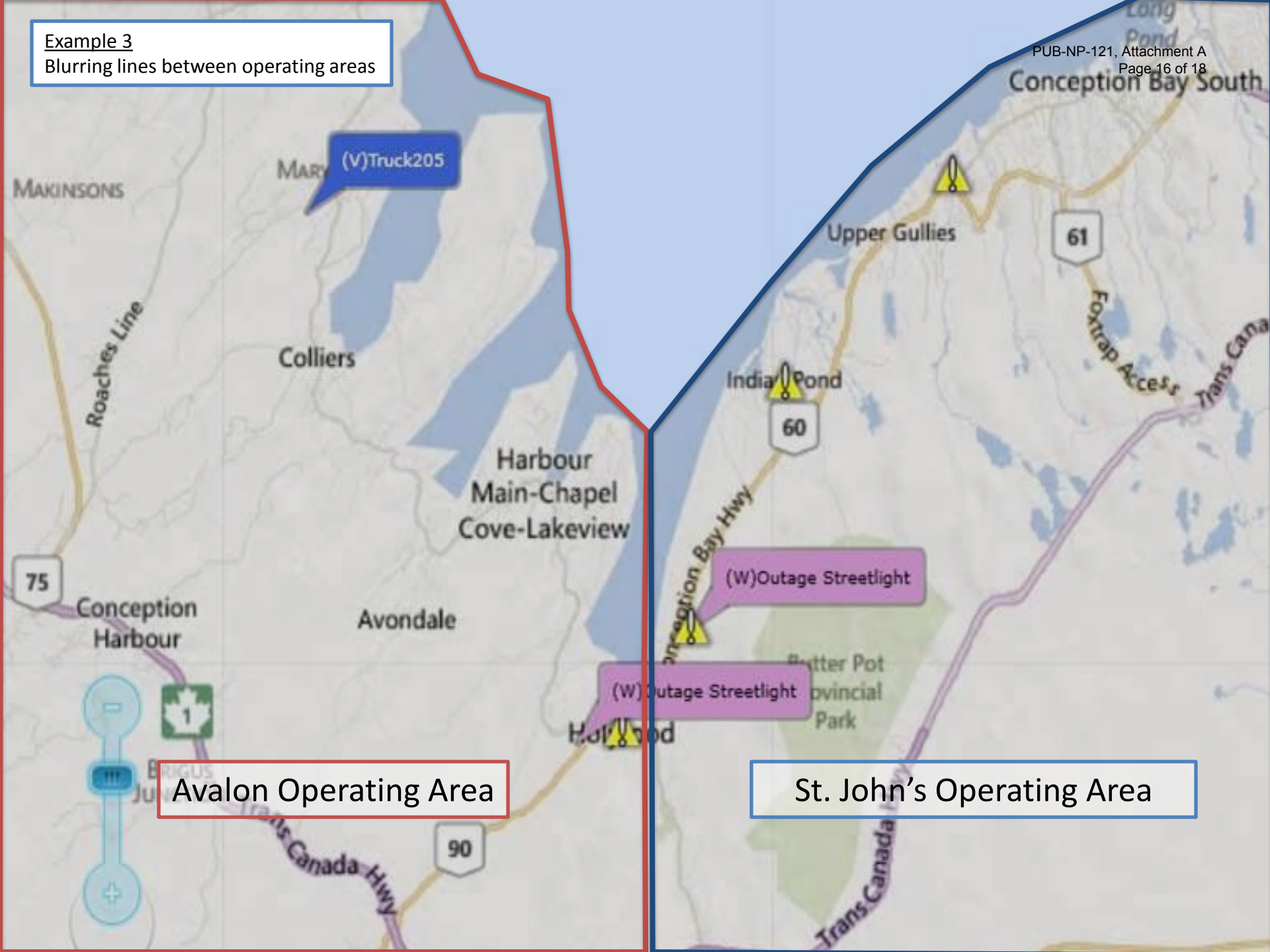


Truck012

Example 2  
Immediate electronic dispatch of streetlight ticket

Example 3

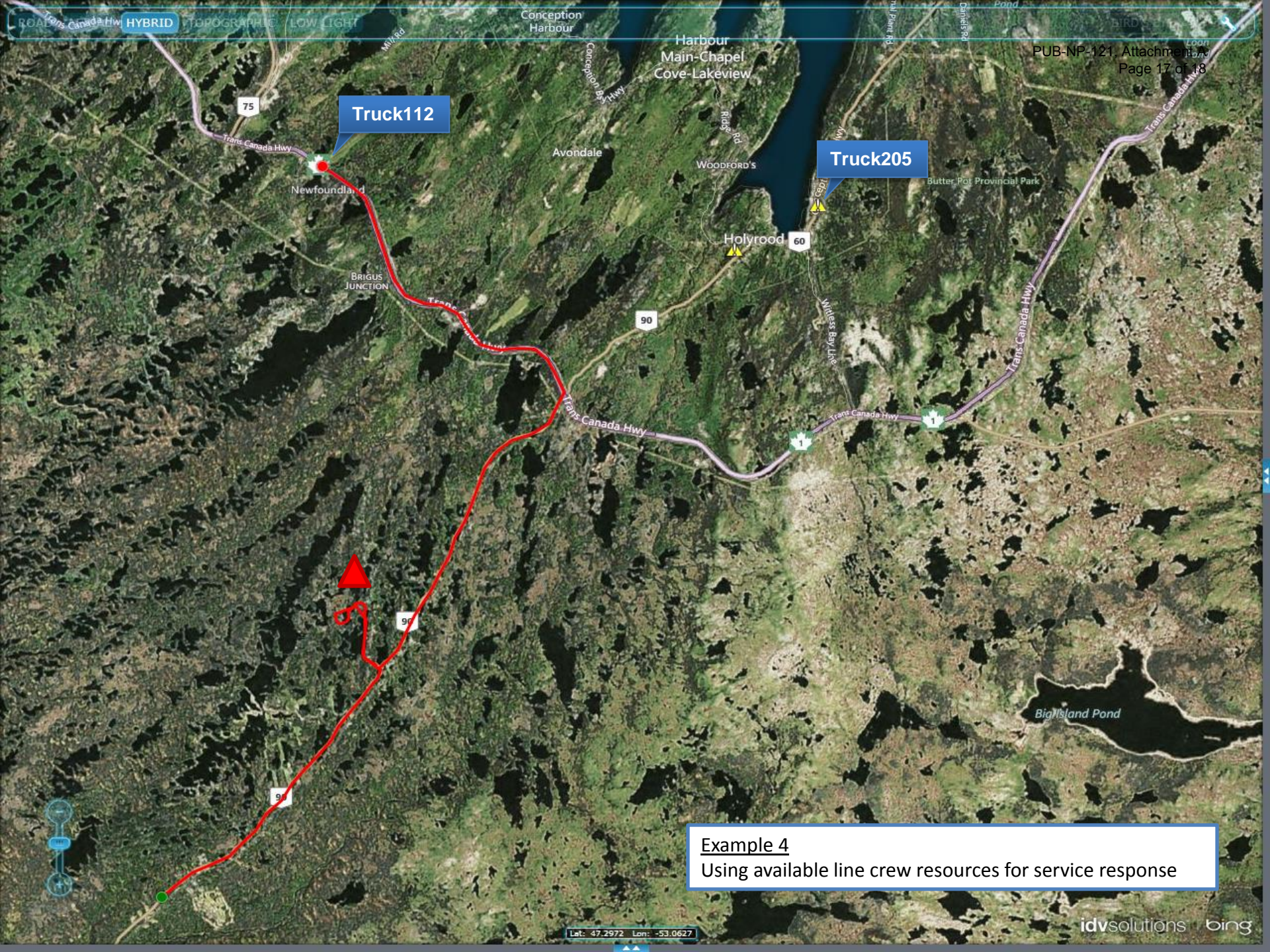
Blurring lines between operating areas



Avalon Operating Area

St. John's Operating Area





Truck112

Truck205

Example 4  
Using available line crew resources for service response



## Future Plans

- Increase Utilization of Geospatial Data
- Centralized Dispatch for Service Work, Line Work, Contractors, etc.
- More Technology Tools in the Field, i.e. Smartphones, Tablets

